

Memorandum

To: ISO Board of Governors

From: Eric Hildebrandt, Executive Director, Market Monitoring

Date: June 18, 2018

Re: Department of Market Monitoring comments on congestion revenue rights auction efficiency initiative

This memorandum does not require Board action.

EXECUTIVE SUMMARY

The ISO's *Congestion Revenue Rights Auction Efficiency Track 1B Draft Final Proposal* proposes to reduce the net payment to a congestion revenue right (CRR) holder if payments to CRRs exceed associated congestion charges collected in the day-ahead market on a targeted constraint-by-constraint basis. This methodology was recommended by the Department of Market Monitoring (DMM) in 2014. In combination with the ISO's Track 1A changes, these additional changes will provide a measure of protection against the risks imposed on transmission ratepayers by the CRR auction and will likely reduce the current level of ratepayer losses. Relative to other potential methods of allocating revenue inadequacy, the Track 1B constraint-specific allocation reduces the incentive for auction participants to target specific modeling discrepancies. Therefore, DMM supports the Track 1B constraint-specific allocation as an improvement over the currently implemented method of allocating revenue inadequacy to measured demand.

Because Management's proposal does not address the fundamental market flaw underlying the CRR auction design, it will not protect transmission ratepayers from further losses from the CRR auction. DMM continues to recommend that the ISO address this issue by modifying the CRR auction into a market for financial hedges based on clearing of bids from willing buyers and sellers. The ISO indicates it has now concluded that the costs of DMM's recommendation would outweigh its benefits, and that the ISO will not give further consideration to this option during Track 2 of this initiative. DMM continues to recommend that the ISO give serious consideration to a market based on willing buyers and sellers during Track 2 of this initiative. This should include the development of a straw proposal based on a market between willing buyers and sellers that could be considered by stakeholders and that has provisions to address the main concerns with willing buyer and seller approaches that the MSC and some stakeholders have expressed, such as the need to modify the CRR allocation process in order to replace the CRR auction with a market based on willing buyers and sellers.

MANAGEMENT'S TRACK 1B PROPOSAL

Background

In 2014, DMM proposed a general methodology that could be used to allocate CRR revenue inadequacy costs back to holders of congestion revenue rights on an interval and constraint specific basis.¹ This allocation approach would limit the total amount of revenues that can be transferred from load-serving entities to congestion revenue rights holders through uplift. Moreover, this allocation method would reduce the incentive for entities purchasing congestion revenue rights to target the modeling differences that create revenue inadequacy costs.²

The ISO included modifications to the CRR process in its initial list of potential stakeholder initiatives for 2015. However, the ISO ultimately excluded any initiative on congestion revenue rights due to resource limitations and the ISO assessment that this would involve a complicated stakeholder process.³ Management is now proposing to adopt this same basic approach as a way to reduce the losses being incurred by transmission ratepayers from CRRs sold in the ISO's auction – which totaled over \$100 million in 2017 and over \$750 million since 2009.

In combination with the ISO's Track 1A proposal, this will provide a measure of protection against the risks imposed on transmission ratepayers by the CRR auction and will likely reduce the current level of ratepayer losses. Relative to other potential methods of allocating revenue inadequacy, the Track 1B constraint-specific allocation reduces the incentive to target specific modeling discrepancies. Therefore, DMM supports the Track 1B constraint-specific allocation as an improvement over the currently implemented method of allocating revenue inadequacy to measured demand.

MSC Proposal

During its June 7, 2018 meeting, the Market Surveillance Committee (MSC) proposed an allocation method in which revenue inadequacy would be allocated to all CRRs in proportion to their CRR payments.⁴ This is similar to the revenue inadequacy method used in PJM. DMM supports the constraint-specific allocation over the less targeted method recommended by the MSC to allocate revenue inadequacy to all congestion revenue rights. The more socialized PJM method of allocating revenue inadequacy to all congestion

¹ *Allocating CRR Revenue Inadequacy by Constraint to CRR Holders*, Department of Market Monitoring, October 6, 2014. https://www.caiso.com/Documents/AllocatingCRRRevenueInadequacy-Constraint-CRRHolders_DMMWhitePaper.pdf.

² *2014 Annual Report on Market Issues and Performance*, Department of Department of Market Monitoring, June 2015, pp. 19-20, 195-196. http://www.caiso.com/Documents/2014AnnualReport_MarketIssues_Performance.pdf

³ *Ibid*, pp. 19 and 195.

⁴ *CRR Issues and Responses*, James Bushnell, Market Surveillance Committee, June 7, 2018: http://www.caiso.com/Documents/Presenttion-CongestionRevenueRightsAuctionEfficiency1B-June7_2018.pdf

revenue rights would provide significantly less benefits than a constraint-specific allocation because the PJM method leaves intact substantial incentives for financial entities to target specific modeling discrepancies in the congestion revenue rights auction.

Recommended improvements in management proposal

The ISO's May 25 addendum proposed treating flow and counterflow differently in the proposed methodology for allocating revenue inadequacy. This differing treatment would result in different effective prices for the same underlying constraint depending on whether the flow associated with a congestion revenue right over the constraint has a positive or negative megawatt value. DMM is not convinced that having different prices for the same underlying commodity is a good idea.

The ISO argues that this treatment would be consistent with what would happen if they ran another optimization with a simultaneous feasibility test. But the ISO is not actually running another optimization, so it is unclear how this argument supports the different treatment of flow and counterflow. However, DMM believes that the significance of resolving this issue is minor compared to the benefits that a constraint-specific allocation would provide relative to the more socialized approaches of allocating revenue inadequacy to measured demand or to all congestion revenue rights.

TRACK 2 AUCTION DESIGN CHANGES

While Management's 1A and 1B proposals would provide some measure of protection for transmission ratepayers, they still do not address fundamental flaws of the CRR auction.⁵ DMM continues to hope and recommend that the ISO address these flaws in the Track 2 comprehensive CRR auction design changes. But in discussing alternatives in the Track 1B proposal, the ISO makes numerous statements which make it clear that the ISO will not give further consideration to moving the auction towards a market for CRRs or other hedging contracts based on trading between willing counterparties. Management's most recent response to DMM's comments on this matter asserts that:

The adverse impact to the overall wholesale energy market of discontinuing the congestion revenue right auction's sales of ISO-market backed congestion revenue rights would likely exceed the perceived benefit of eliminating the auction revenue shortfall.⁶

Management does not provide or cite any empirical support for this conclusion. In making this conclusion, the ISO appears to rely on arguments by the MSC and entities profiting from the current auction that there are some potential costs of moving to a market between willing

⁵ DMM has described these flaws in multiple venues including its *Comments on the CRR Auction Analysis Working Group*, Department of Market Monitoring, January 16, 2018:
<http://www.caiso.com/Documents/DMMComments-CRRAuctionAnalysisReportWorkingGroup.pdf>.

⁶ *Stakeholder Process: Congestion Revenue Rights Auction Efficiency Summary of Submitted Comments and Management Response, Attachment A, June 14, 2018, p.4.*
<http://www.caiso.com/Documents/DecisiononCongestionRevenueRightsAuctionEfficiencyTrack1BProposal-AttachmentA-Jun2018.pdf>

counterparties. No empirical analysis or evidence has been presented that these costs may be large enough to justify ending the consideration of alternatives to the CRR auction that are based on a market between willing counterparties.

Meanwhile, most load serving entities who actually rely on the wholesale energy market support moving towards a market for CRRs or other hedging contracts based on trading between willing counterparties. This coalition includes the state's major investor owned utilities, as well as a broad range of smaller load serving entities and public power entities. Why would these entities support development of a market for CRRs based on willing buyers and sellers if they thought the costs of this on wholesale energy prices would exceed the benefits from eliminating auction revenue shortfalls?

By prematurely accepting the assertions of the MSC and some stakeholders about the impacts of transitioning to a market between willing counterparties, the ISO precludes any productive discussion about market design changes that will adequately address the auction's fundamental flaws. DMM's comments therefore address concerns cited by the ISO as reasons not to pursue alternatives to the CRR auction based on trading between willing counterparties. Specifically, these comments make the following points:

- Transmission ratepayers are not natural sellers of basis risk hedges, as the MSC contends.
- Neither the ISO, MSC nor any other participant has provided any reasonable theoretical or empirical support to justify using ratepayer auction losses as a subsidy to other market participants who may buy or sell energy contracts.
- The main issue for the ISO to resolve is whether and how the ISO should facilitate the trading of contracts to hedge locational basis risk.

A more detailed discussion of these key issues is provided below. Going forward, DMM believes a more thorough vetting of these issues is necessary for the ISO to seriously consider market alternatives to the CRR auction.

Transmission ratepayers are not “natural sellers” of CRRs

The ISO's MSC argues that because transmission ratepayers receive the “excess” congestion rent not paid to allocated CRRs that they are “natural sellers” of price swaps that hedge congestion risk. The MSC argues that sales of CRRs in the auction by the ISO actually reduces risk for ratepayers.⁷ As explained below, these arguments are flawed. Transmission ratepayers are not the natural sellers of swaps to hedge basis risk.

⁷ The MSC opinion asserts that “The ISO, or indirectly the ratepayers who are residual claimants to congestion revenues, are therefore in a unique position to provide CRRs to market participants. They are the natural counter-parties since they have the oppo site revenue stream.” See *Opinion on Congestion Revenue Rights Auction Efficiency*, Market Surveillance Committee, March 13, 2018, p. 4. http://www.caiso.com/Documents/MSCDraftOpiniononCongestionRevenueRightsAuctionEfficiency-Mar15_2018.pdf

The MSC's argument assumes that the only relevant risk is the uncertain stream of day-ahead market congestion rent income that is not paid to allocated CRRs, which the MSC assumes is free to be used to back the CRRs subsequently auctioned by the ISO on behalf of ratepayers. However, this unallocated congestion rent is created directly by the purchases that LSEs make in the day-ahead market for which no LSEs have received allocated CRRs. Therefore, returning this unallocated congestion rent to the ratepayers through the CRR balancing account would hedge the ratepayers for the congestion costs of the day-ahead market energy purchases that are not hedged by any allocated CRRs.

Instead, the current auction design requires ratepayers to sell CRRs under the assumption that the payments to the CRRs will be backed by the unallocated day-ahead market congestion rents. This actually removes the hedge that ratepayers would have on their day-ahead market energy purchases if not for the CRR auction. In other words, when the ISO sells ratepayer-backed CRRs it is not reducing overall risks – it is creating a new, large source of risks for transmission ratepayers.

The argument that the auction design reduces ratepayer risks by replacing an uncertain stream of income with a fixed payment in the auction is also incorrect. If a market participant offers a known payment now to replace an unknown payment, then accepting the known payment would be less risky. But the CRR auction design does not give this type of offer to ratepayers. Instead, the design replaces uncertain day-ahead market payments with a different uncertain auction payment.⁸ Just because the auction payment is a single payment does not mean it is not risky. The payment is still uncertain and ratepayers cannot control at what price they will “accept” auction payments in exchange for obligations to make payments at the day-ahead market prices.

Arguments that CRR auction revenue shortfalls are justified because they help to reduce forward contract prices are unsupported and flawed

The ISO, MSC and several stakeholders argue that transmission ratepayer losses in the CRR auction reduce the costs of the auction participants who are buying the CRRs to hedge basis risk related to forward contracting.⁹ Participants buying the CRRs as hedges, the argument goes, can then lower their forward contract prices by the amount of ratepayer losses (which are profits for the auction participants). Thus, the ratepayer losses are made

⁸ The auction actually gives transmission ratepayers the obligation to pay CRR holders which in theory nets out against the congestion rent income. Ratepayers have to make these payments whether or not there is an offsetting stream of congestion rent income. Obviously, to the extent there is not an offsetting stream of congestion rent income, or to the extent that the stream of income is not negatively correlated with the payments to CRRs, paying CRRs increases the risks faced by ratepayers (assuming no other relevant spot market risks).

⁹ For example, the MSC argues that if the ISO did not offer ratepayer-backed CRRs through the auction, “replacement hedges would likely be available only at a much higher prices for market participants”, *MSC Opinion from March 13, 2018*, pp. 22-23.

up for by lower forward contracting costs and the market may actually be better off. This argument is not based on any empirical analysis or sound economic reasoning.

First, as a practical matter, most of the ratepayer losses are paid to CRRs that are unlikely to be used for hedging forward contract basis risk.¹⁰ The ratepayer losses on CRRs not hedging forward contract basis risk cannot reduce forward contracting costs in the way described above. If the ISO and the MSC determine that ratepayers should be made to subsidize hedges that reduce the costs of forward energy contracts, then a mechanism should be designed that does not result in the vast majority of ratepayers' money going to financial entities through CRRs that do nothing to reduce the costs of forward energy contracts.

DMM has not seen anyone present an argument on how subsidizing CRRs with ratepayer funds would actually increase the efficiency of the forward energy contract market. Having ratepayers lose money on CRRs to lower the costs of forward contracting is a cross subsidy. Subsidizing factor costs to reduce product costs is not generally assumed to increase market efficiency in the absence of an externality or other market failure. On the contrary, economists are generally concerned that such cross subsidization would distort market prices and decrease market efficiency.

Further, in arguing that the “adverse impact...would likely exceed the perceived benefit” of moving to a market based on willing counterparties, the ISO is assuming that any increase in forward contracting costs would be commensurate with (or exceed) ratepayer auction losses. The effect that subsidizing CRRs has on forward contracting costs depends on the distribution of the subsidy among market participants, and the structure and elasticities of the forward contracting market.

Neither the ISO, MSC, nor any stakeholder has presented evidence to suggest that replacing the current auction design with a CRR market with voluntary counterparties would increase LSE forward contract costs by more than ratepayer losses from the current auction design. On the contrary, the best public evidence on this topic indicates the opposite. In particular, the CPUC, Office of Ratepayer Advocates, and LSEs representing the vast

¹⁰ See *Joint reply commenters' request for leave to submit reply comments and reply comments*, Docket No. ER18-1344, Affidavit of Doug Boccignone, May 25, 2018, p. 7 (p. 40 of filing): <https://elibrary.ferc.gov/IDMWS/common/opennat.asp?fileID=14930322>

Mr. Boccignone's analysis of 2017 auction CRRs found that “...over ninety percent (90.3%) of the auction CRRs are held by parties that account for less than four percent (3.9%) of the volume of all reported CAISO EQR energy transacted in 2017. More than seventy-two percent (72.4%) of the CAISO auction CRRs are held by entities that, according to the EQRs, had no CAISO energy transactions”

majority of California's transmission ratepayers support the ISO moving to a market based on willing counterparties.

The MSC has incorrectly characterized support for a market based on willing counterparties as being "those of DMM and the investor-owned utilities".¹¹ In fact, the entities that support the ISO implementing a design that limits transactions to those between willing buyers and willing sellers includes regulators, large and small municipal utilities, CCAs, commercial and industrial loads, and direct access customers. The fact that all different types of LSEs representing the vast majority of California's load supports the ISO adopting a market based on willing counterparties is the most compelling public evidence that DMM has seen that a market between willing buyers and sellers should be expected to lower overall wholesale energy costs for LSEs.

DMM does not believe the intent of the CRR auction was (or should be) to provide subsidies for basis risk hedges. However, even if one believes a subsidy is needed or beneficial, the CRR auction appears to be a non-targeted and very inefficient way to go about administering such a subsidy.

The main issue for the ISO to resolve is whether and how the ISO should facilitate the trading of contracts to hedge basis risk.

The CRR auction design forces ratepayers to offer financial contracts and increases risks borne by ratepayers. The current auction design subsidizes CRRs with ratepayer funds. As explained above, subsidies that lower the price of CRRs can reduce market efficiency. But some may worry that the costs of participating in a market for contracts to hedge locational basis risk would be too high in the absence of the current CRR auction design. That is, the costs of trading would stop otherwise valuable trades from occurring. It might be possible that intervening, potentially with a subsidy, could reduce trading costs.

DMM believes the current CRR auction design is a non-targeted intervention subsidized by transmission ratepayers that creates huge opportunities for financial entities to extract rents from the wholesale market system without any resulting benefits in terms of actual hedging.

Relevant policy questions to address in a stakeholder initiative on CRR auction reform include:

¹¹ *Opinion on Congestion Revenue Rights Auction Efficiency, Track 1B*, Market Surveillance Committee, June 13, 2018, p. 2.
http://www.caiso.com/Documents/MSCOpiniononCongestionRevenueRightsAuctionEfficiencyTrack1B-June13_2018.pdf

- Should the ISO intervene, potentially with subsidies, to help facilitate the trading of basis swaps?
- Or, should the ISO not intervene in the forward markets?
- If intervention is thought to be needed, how best can the ISO design a targeted intervention that will facilitate trading without creating massive rent seeking opportunities?
- If subsidies for hedging are warranted, who should fund these subsidies?

RECOMMENDATION

In combination with the ISO's Track 1A changes, the changes in the ISO's *Congestion Revenue Rights Auction Efficiency Track 1B Draft Final Proposal* will provide a measure of protection against the risks imposed on transmission ratepayers by the CRR auction and will likely reduce the current level of ratepayer losses. Relative to other potential methods of allocating revenue inadequacy, the Track 1B constraint-specific allocation reduces the incentive to target specific modeling discrepancies. Therefore, DMM supports the Track 1B constraint-specific allocation as an improvement over the currently implemented method of allocating revenue inadequacy to measured demand.

While Management's 1A and 1B proposals would provide some measure of protection for transmission ratepayers, they still do not address fundamental flaws of the CRR auction. DMM continues to hope and recommend that the ISO address these flaws in the Track 2 comprehensive CRR auction design changes. But in discussing alternatives in the Track 1B proposal, the ISO makes numerous statements that suggest the ISO will not consider moving the auction towards a market for CRRs or other hedging contracts based on trading between willing counterparties. The ISO cites arguments raised by stakeholders and the MSC against moving to a market between willing counterparties. DMM does not think these points have been sufficiently discussed.

DMM continues to recommend that the ISO to give serious consideration to a market based on willing buyers and sellers during Track 2 of this initiative. This should include the development of a straw proposal based on willing buyers and sellers that could be considered by stakeholders and that attempts to address the main concerns with willing buyer and seller approaches that the MSC and some stakeholders have expressed. The design option developed should include modifications the ISO believes would be needed in the CRR allocation process (such as to address special issues that may be created by Community Choice Aggregators) in order to replace the CRR auction with a market based on willing buyers and sellers. DMM recognizes that this may be a controversial and perhaps protracted process for the ISO, but believes that this issue merits continued focus and serious consideration by the ISO.